Installation and Alignment Instructions for the 8” AURORA ™ Highway Crossing Signal

ALSTOM

Scope & Installation Procedures

These instructions describe how to retrofit a 8" incandescent signal and install with the new Aurora™ LED Light Unit. The retrofit kit contains an Aurora light source board, a protective, clear polycarbonate lens and a bag of miscellaneous hardware.

Tools Required:

1. A slotted head screwdriver
2. A Phillips head screwdriver
3. An AAR terminal wrench
4. An electric drill

Retrofit Kit Use

The ALSTOM kit (Catalog No. A30-942) can be installed in different signal heads. Presently, this applies to signal heads made by Modern Industries, Safetran, (FLX-12 die-cast), Union Switch & Signal, and Western-Cullen-Hayes.

Outer Roundel Replacement - Figure 1

1. Open signal door. Loosen screws securing red roundel lens and remove lens.
2. Inspect door gasket. Replace it if broken or cracked.
3. Install clear polycarbonate lens and tighten screws.

8" Light Source Board Installation - Figure 2

Instructions follow describing how to retrofit an incandescent signal head made by one of four suppliers to the new ALSTOM Aurora Highway Crossing Signal. A complete set of instructions for converting each signal head is identified by the supplier's name.

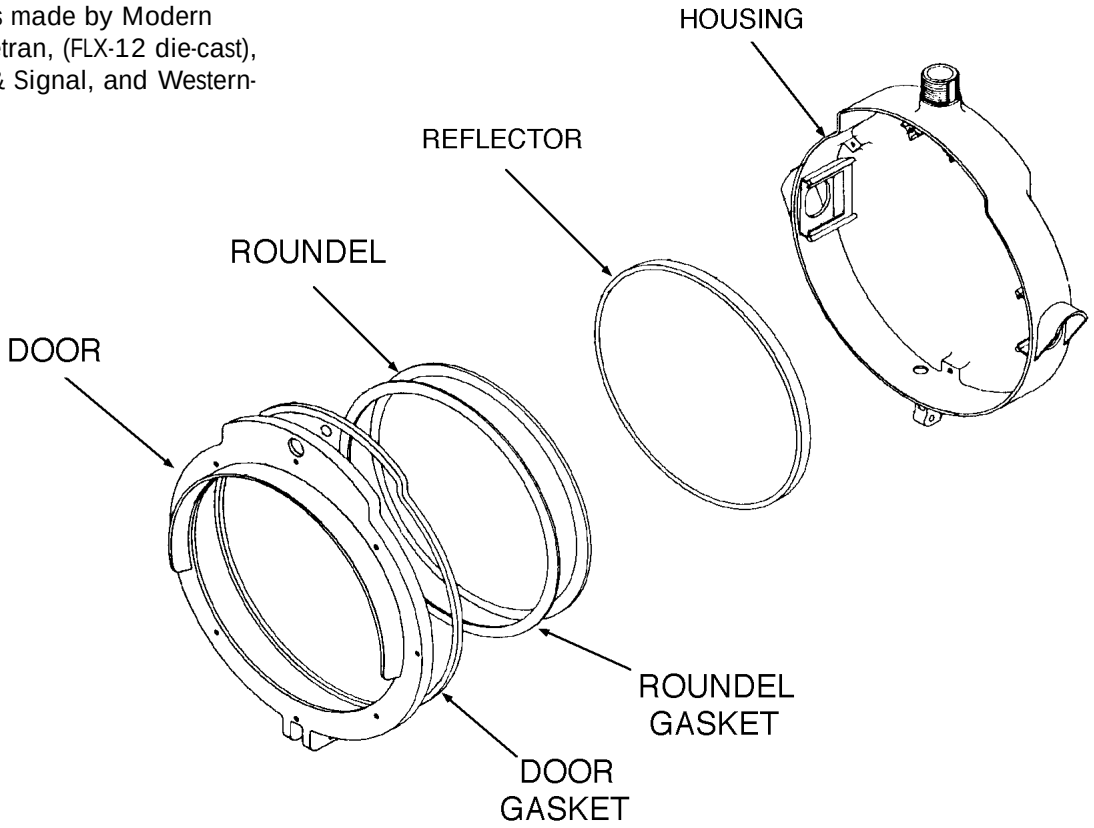

Figure 1. Typical Signal Head with Reflector Installed

Conversion Information

Converting a Modern Industries Signal Head

1. First, complete the procedure for replacement of outer roundel.
2. Remove the existing lamp, lamp bracket and reflector from the signal head.
3. Save the hardware that secured the reflector in place.
4. Connect wire leads from light source board to binding posts inside signal head.
5. If the signal head has no terminal block, cut off ring terminals and strip wires to allow using wire nuts or butt connectors to secure wires from the light source board to field wires entering the signal head.
6. Refer to Figure 3 for hole pattern in light source board. Position the smaller elongated board hole by the rectifier so the latter is at the bottom (6 o'clock position) of the signal head.
7. Use hardware removed from signal head and flat washers from kit to secure light source board.
8. Close lens door and secure.

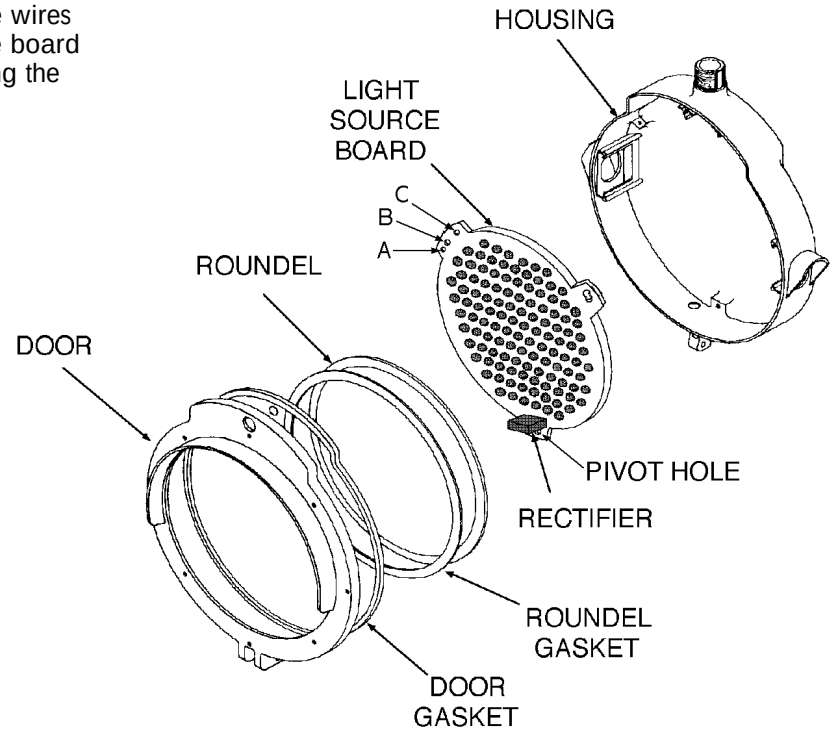

Figure 2. Signal Head Retrofitted with Aurora Light Source Board

Conversion Information

Converting a Safetran Systems Signal Head

1. First, complete the procedure for replacement of outer roundel.
2. Remove the existing lamp, lamp bracket and reflector from the signal head and discard.
3. Refer to Figure 2 for hole pattern in light source board. Position the smaller elongated board hole by the rectifier so the latter is at the bottom (6 o'clock position) of the signal head.
4. Insert light source board into the housing and mark the housing to locate the 3 holes. Use a drill with a .177 or 11/64 bit to drill through holes in the housing. Be sure to remove all drill chips and residue.
5. Connect wire leads from light source board to binding posts inside signal head.
6. If the signal head has no terminal block, cut off ring terminals and strip wires to allow using wire nuts or butt connectors to secure wires from the light source board to field wires entering the signal head.
7. From the kit use #10 self-tapping screws and washers to secure light source board in the signal head.
8. Close lens door and secure.

Converting a US&S Signal Head

1. First, complete the procedure for replacement of outer roundel.
2. Remove the existing lamp, lamp bracket and reflector from the signal head and discard.
3. Connect wire leads from light source board to binding posts inside signal head.
4. If the signal head has no terminal block, cut off ring terminals and strip wires to allow using wire nuts or butt connectors to secure wires from the light source board to field wires entering the signal head.
5. Refer to Figure 2 for hole pattern in light source board. Position the smaller elongated board hole by the rectifier so the latter is at 8 o'clock position in the signal head.
6. To fasten board, use one 1/4-20 screw, a 1/4 flat washer, two 8-32 screws and #8 washers from kit.
7. Close lens door and secure.

Conversion Information

Converting a Western-Cullen Hayes Signal Head

1. First, complete the procedure for replacement of outer roundel.
2. Remove the existing lamp, lamp bracket and reflector from the signal head.
3. Save the hardware that secured the reflector in place.
4. Remove the terminal block and reinstall it using the #10-24 male-female standoff nut to raise the block. This gives the clearance to insert and mount the light source board.
5. If the signal head has no terminal block, cut off ring terminals and strip wires to allow using wire nuts or butt connectors to secure wires from the light source board to field wires entering the signal head.
6. Refer to Figure 2 for hole pattern in light source board. Position the smaller elongated board hole by the rectifier so the latter is at the bottom (6 o'clock position) of the signal head.
7. Use hardware removed from signal head and flat washers from kit to secure light source board.
8. (Some) WCH signals may require the longer 10-24 screws from the kit to fasten the board.
   NOTE: If using longer screw, then place neoprene washer between light source board and signal housing. See Figure 3.
9. Close lens door and secure.

Test and Alignment

1. Check operating voltage and adjust as necessary to maintain 10 volts at signal.
2. Align signal following procedures for standard incandescent signals.

Maintenance

As environmental conditions dictate, clean clear outer lens with a soft cloth and either a 2% solution of dishwashing detergent, rinse and dry immediately or use any plastic cleaner and polish recommended for polycarbonates. Inside the signal head gently use a clean, dry soft-bristled brush to remove any dust from the light source board.

Reference Material

For more information on the Aurora LED Light Source board, see ALSTOM Publication P2468.

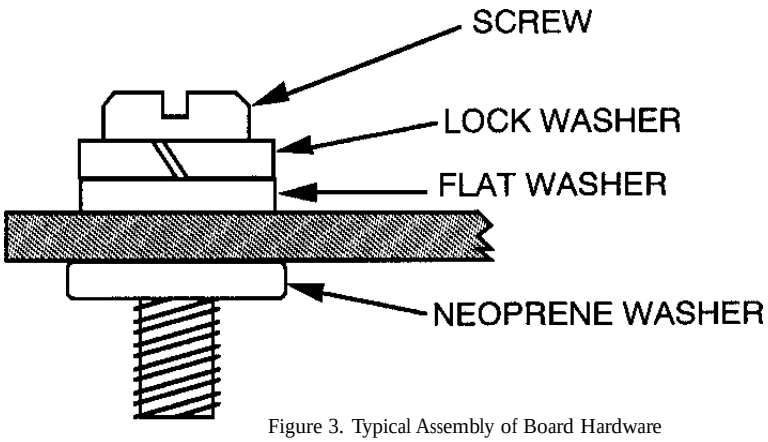

Figure 3. Typical Assembly of Board Hardware

TRANSPORT - ALSTOM Signaling Inc. - 150 Sawgrass Drive - Rochester, NY 14620
Tel.: (716) 783-2000 - Fax: (716) 274-8777 - www.alstom.com F372I Rev. 8/99